

**ABSTRACT**

A detection system for identifying airfoils having a cooling systems with orifices that are plugged with contaminants or with showerheads having a portion burned off. The detection system measures pressures at different locations and  
5 calculates or measures a differential pressure. The differential pressure may be compared with a known benchmark value to determine whether the differential pressure has changed. Changes in the differential pressure may indicate that one or more of the orifices in a cooling system of an airfoil are plugged or that portions of, or all of, a showerhead has burned off.